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| 10/550,323 | 09/01/2006 | Roger D Chamberlain | 53047-57370 | 2084 |

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| EXAMINER |
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FLEURANTIN, JEAN B

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| ART UNIT | PAPER NUMBER |
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2162

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06/24/2010

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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| | | | |
|------------------------------|---------------------------------------|---|--|
| Office Action Summary | Application No. 10/550,323 | Applicant(s) CHAMBERLAIN ET AL. | |
| | Examiner JEAN B. FLEURANTIN | Art Unit 2162 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 April 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 40-52,54-64 and 98-104 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 40-52,54-64 and 98-104 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 September 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date <u>See Continuation Sheet</u> . | 6) <input type="checkbox"/> Other: _____ |

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date: 3 of 10/01/2008; 11/20/2008; 2 of 09/29/2009; 10/27/2009; 11/18/2009; and 01/28/2010.

DETAILED ACTION

1. This is in response to the election filed on 04/30/2010.
2. The following is the status of claims:
Claims 1-39, 53, and 65-97 have been canceled.
Claims 40-52, 54-64, and 98-104 are presented for examination.

Information Disclosure Statement

3. The information disclosure statement (IDS) filed on 10/01/2008, 11/20/2008, 09/29/2009, 10/27/2009, 11/18/2009, and 01/28/2010. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Drawings

4. The Drawings filed 09/23/2005 have been acknowledged.

The document (Power of Attorney) filed on 09/01/2006 has been acknowledged.

The document filed on 09/23/2005 has been acknowledged.

The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

The preliminary amendment filed on 09/23/2005 has been considered.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 40-52, 54-64, and 98-104 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 40 recites "... as it passes between the data storage medium ..." which renders the claim indefinite.

Claim 54 recites "...on the data it receives ..." which renders the claim indefinite.

Claim 100 recites "... as a pass through for the data it receives ..."; "... upon the data it receives..."; "... as it passes between the data storage medium ..." which renders the claim indefinite.

Claim 102 recites "...on the data it receives ..."; "... for the data it receives..." which renders the claim indefinite.

The dependent claims are rejected under the same rational.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims are rejected under 35 U.S.C. 102(b) as being anticipated by USPT No. 4,464,718 issued to Dixon et al., (“Dixon”).

As per claim 40, Dixon discloses “a data processing system comprising a data storage medium” [figure 1, item12];

“a processing device in communication with the data storage medium” [i.e., cpu, main memory; figure 1, items 10, 12]; and

“a computer system having a system bus [i.e., bus system, figure 2, item 14], wherein the computer system is configured to communicate with the processing device over the system bus” [i.e., device connects via bus (22); col. 4, lines 38-40];

“wherein the processing device comprises a programmable logic device configured to process the data, as it passes between the data storage medium and the computer system” [col. 4, lines 54-58], “through a plurality of stages implemented on the programmable logic device as a processing pipeline [figure 1, item 16], each processing stage being dedicated to a different processing operation” [col. 5, lines 47-51]; and

“wherein the processing operations comprise at least two selected from the group consisting of a search operation, a data reduction operation, a data classification operation, an encryption operation, a decryption operation, a compression operation, and a decompression operation” [col. 6, lines 64-67, figure 4, items 18, 52].

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As per claims 41, and 60, Dixon discloses “one of the at least two processing operations is a search operation” [col. 4, lines 32-35].

As per claims 46, 59, and 101, Dixon discloses “the programmable logic device is an FPGA” [figure 1, and corresponding text].

As per claims 49, and 63, Dixon discloses “one of the at least two processing operations is a data reduction operation” [col. 8, lines 22-28].

As per claims 50, and 64, Dixon discloses “one of the at least two processing operations is a data classification operation” [col. 6, lines 63-78].

As per claim 54, the limitations of claim 54 are similar to claim 1, therefore, the limitations of claim 54 are rejected in the analysis of claim 1, and this claim is rejected on that basis.

As per claims 98, and 99, Dixon discloses “the programmable logic device is further configured to deactivate a stage of the plurality of stages, whereby the deactivated stage acts as a pass through for the data it receives; the plurality of stages have an associated order, the order of the stages remaining the same whether any of the stages are deactivated” [col. 6, lines 61-68].

As per claim 100, in addition to claim 40, Dixon further discloses “wherein the processing device is configured to selectively activate and deactivate individual ones of the data processing stages to define a data processing pipeline, wherein a deactivated stage acts as a pass through for the data it receives [col. 8, lines 49-67], and wherein an activated stage performs the data processing operation to which that stage is dedicated upon the data it receives” [col. 6, lines 61-68; col. 10, lines 35-42].

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As per claim 102, in addition to claim 40, Dixon further discloses “a hard disk drive accelerator for connection between a hard disk drive [figure 1, item 12] and a processor [figure 1, item 10], said accelerator comprising reconfigurable hardware logic arranged such that data read from the hard disk drive streams through the reconfigurable hardware logic prior to being passed on to the processor, wherein the reconfigurable hardware” [col. 4, lines 54-58].

As per claims 103, and 104, the limitations of claims 103, and 104 are similar to claims 98, and 99, therefore, the limitations of claims 103, and 104 are rejected in the analysis, and these claims are rejected on that basis.

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Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 42-45, 55-58, and 61-62 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPT No. 4,464,718 issued to Dixon et al., ("Dixon") in view of US Pub No. 2003/0163715 issued to Wong, ("Wong").

As per claims 42, 44, 48, 55, 57, and 61, in addition to claim 1, Dixon fails to explicitly disclose receive a continuous stream of encrypted data from the data storage medium, (2) decrypt the received continuous stream to create a decrypted data stream, and (3) perform a search operation within the decrypted data stream. However, Wong discloses receive a continuous stream of encrypted data from the data storage medium, (2) decrypt the received continuous stream to create a decrypted data stream, and (3) perform a search operation within the decrypted data stream [Wong Para 0018, 0022, figures 2, 4]. It would have been obvious to one ordinary skill in the art at the time the invention was made to modify the system of Dixon by decrypting the data stream as disclosed by Wong [Wong Para 0022]. Such a modification would allow the system of Dixon to provide significantly reduces development and manufacturing costs [Wong Para 0007, lines 10-12], therefore, improving the reliability of the intelligent data storage and processing using FPGA devices.

As per claims 43, 45, 47, 56, 58, and 62, Dixon discloses “the search operation is configured to determine whether a pattern match exists between a search key that is representative of data desired to be retrieved from the data storage medium” [i.e., comparison is continuously made between the count produced by the key address counter and the value stored in the key length register; col. 15, lines 4-9; col. 9, lines 17-26]. Dixon fails to explicitly disclose a data signal that is representative of the decrypted data stream. However, Wong discloses a data signal that is representative of the decrypted data stream [Wong Para 0018, 0022, figures 2, 4]. Such a modification would allow the system of Dixon to provide significantly reduces development and manufacturing costs [Wong Para 0007, lines 10-12], therefore, improving the reliability of the intelligent data storage and processing using FPGA devices.

Allowable Subject Matter

8. Claims 51, and 52 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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CONTACT INFORMATION

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to JEAN B. FLEURANTIN whose telephone number is (571)272-4035. The examiner can normally be reached on 10:00 to 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, JOHN E. BREENE can be reached on 571 - 272-4107. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jean B. Fleurantin/
Primary Examiner, Art Unit 2162